

Japanese Journal of ***MICROBIOLOGY***

Vol. 20

1976

JAPANESE SOCIETY FOR BACTERIOLOGY
SOCIETY OF JAPANESE VIROLOGISTS
JAPANESE SOCIETY FOR IMMUNOLOGY

JAPANESE JOURNAL OF MICROBIOLOGY

In conformance with the aims of the Japanese Society for Bacteriology, the Society of Japanese Virologists, and the Japanese Society for Immunology this Journal is devoted to the world-wide dissemination of advanced knowledge in bacteriology, virology, immunology, and related fields.

EDITORIAL BOARD

- Hisao UETAKE, *Editor-in-Chief* Institute for Virus Research, Kyoto University, Kyoto
Akira GHODA The Kitasato Institute, Tokyo
Isamu KONDO The Jikei University School of Medicine, Tokyo
Toshisada MATSUMOTO Nagoya University School of Medicine, Nagoya
Tyoku MATUHASHI The Institute of Medical Science, University of Tokyo, Tokyo
Ryosuke MURATA National Institute of Health, Tokyo
Toshiaki OSAWA Faculty of Pharmaceutical Sciences, University of Tokyo, Tokyo
Kazuhisa SAITO Keio University School of Medicine, Tokyo
Hiroto SHIMOJO The Institute of Medical Science, University of Tokyo, Tokyo
Tomio TADA Chiba University School of Medicine, Chiba
Isamu TAGAYA National Institute of Health, Tokyo
Masanori TAJIMA Nippon Institute for Biological Science, Tachikawa
Nobuo TANAKA Institute of Applied Microbiology, University of Tokyo, Tokyo
Yasushi WATANABE Tokai University School of Medicine, Isehara

ASSOCIATE EDITORS

- | | | |
|----------------------|--------------------|---------------------|
| Keio AIZAWA | Tsunehisa AMANO | Kôzaku FUJIWARA |
| Konosuke FUKAI | Toshiyuki HAMAOKA | Zyun HIDAKA |
| Yorio HINUMA | Tokuzo HIRAI | Yuzuru HOMMA |
| Tosi Take IIDA | Hiroshi IIZUKA | Nakao ISHIDA |
| Kazuo IWATA | Juntaro KAMAHORA | Shiro KATO |
| Yoshimi KAWADE | Reisaku KONO | Shôgo KUWAHARA |
| Minoru MATUMOTO | Susumu MITSUHASHI | Tadashi MIYAKE |
| Denichi MIZUNO | Toyoho MUROHASHI | Yasuiti NAGANO |
| Kusuya NISHIOKA | Rintaro NAKAYA | Shoshichi NOJIMA |
| Tokukiti NOJIMA | Manabu OGATA | Suyehiko OKAMOTO |
| Haruo OZEKI | Riichi SAKAZAKI | Takehiko SHIMIZU |
| Takehiko TACHIBANA | Ichirô TADOKORO | Kenji TAKEYA |
| Noboru TAMURA | Toru TSUMITA | Yukinori TSUNEMATSU |
| Hisao UCHIDA | Hamao UMEZAWA | Daizo USHIBA |
| Itaru WATANABE | Tadashi WATANABE | Ryo YANAGAWA |
| Masanosuke YOSHIKAWA | Kamesaburo YOSHINO | |

PUBLICATION OFFICE: Igaku Shoin Ltd.,
5-24-3 Hongo, Bunkyo-ku, Tokyo, Japan.

DISTRIBUTOR for U.S.A., and Canada:
Springer-Verlag New York Inc., 175 Fifth Ave-
nue, New York, N. Y. 10010, U.S.A.

DISTRIBUTOR for all Europe including The
United Kingdom: Springer-Verlag, D-1000
Berlin 33, Heidelberger Platz 3, Postfach,
Germany.

DISTRIBUTOR for Asia, Central and South
America, Oceania, and Africa: Igaku Shoin
Ltd., 5-24-3 Hongo, Bunkyo-ku, Tokyo,
Japan.

ADVERTISING OFFICE: Igaku Shoin Ltd.,
5-24-3 Hongo, Bunkyo-ku, Tokyo, Japan.

SUBSCRIPTION PRICE (incl. postage):

For Volume 20, 1976 (6 issues) ¥15,000.

For a single issue ¥3,000.

The subscription must be prepaid.

CONTENTS

Volume 20, Number 1, February 1976

Bacteriology

- SAINO, Y., EDI, J., NAGOYA, T., YOSHIMURA, Y., YAMAGUCHI, M., AND KOBAYASHI, F.
 Anaerobic Coryneforms Isolated from Human Bone Marrow and Skin. Chemical, Biochemical and Serological Studies and Some of Their Biological Activities..... 17-25
- TOMOEDA, M., INUZUKA, M., AND HAYASHI, M.
 Eliminatory Action of Glycine on Drug Resistance of *Escherichia coli* K12 Harboring an R Factor 27-32
- HAMADA, S., MASUDA, N., OOSHIMA, T., SOBUE, S., AND KOTANI, S.
 Epidemiological Survey of *Streptococcus mutans* among Japanese Children. Identification and Serological Typing of the Isolated Strains. 33-44
- OTA, F., FUKUI, K., ASHTON, F.E., AND DIENA, B.B.
 The Fine Structure of Reverting L-Forms of *Neisseria gonorrhoeae*..... 59-62

Virology

- UEBA, N., KIMURA, T., AND KIMOTO, T.
 Multinucleated Giant Cell Formation in BHK-21-528 Cell Monolayers Infected with Japanese Encephalitis Viruses 1-9
- URASAWA, S., URASAWA, T., AND KANAMITSU, M.
 Further Studies of Specificity of Antibodies Contained in Antiserum against Poliovirus 11-16
- SHINAGAWA, M., AND YANAGAWA, R.
 Acetylation and Phosphorylation of Chromosomal Proteins in Dog Kidney Cells Infected with Infectious Canine Hepatitis Virus 67-70

Immunology

- UCHIYAMA, T., YAMAURA, N., AND MAEDA, R.
 Characterization of Background Anti-Trinitrophenyl Plaque-Forming Cells Observed in Several Strains of Mice..... 45-52
- NAKANO, M., TANABE, M. J., SAITO, T., AND SHIMIZU, T.
 Immunosuppressive Effect of Bacterial Lipopolysaccharide on Antibody Response 53-58
- AZUMA, I., SUGIMURA, K., YAMAMURA, Y., KUSUMOTO, S., TARUMI, Y., AND SHIBA, T.
 Adjuvant Activity of Synthetic Cell-Wall Peptidoglycan Subunits on Monoazobenzenearsonate-N-acetyl-L-tyrosine and Bacterial α -Amylase in Guinea Pigs 63-66

Bacteriology

OTA, F., ASHTON, F.E., AND DIENA, B.B.

- Type and Strain Variation in Induction of L Forms of *Neisseria gonorrhoeae* 77-82

IWATA, S., TOCHIKUBO, K., KATO, K., HIRATA, T., KOTANI, S., AND YAGI, K.

- Microorganism Capable of Decomposing *N*-Acetylglucosaminyl Ribitol Teichoic Acid of *Staphylococcus aureus* 123-129

WONG, K. W., AND SOO-HOO, T.S.

- A Rapid, Simple Agar-Overlay Method for the Detection of Penicillinase-Producing *Staphylococcus aureus* in the Clinical Bacteriology Laboratory 153-154

Virology

MACHIDA, H., KUNINAKA, A., AND YOSHINO, H.

- Relationship between the Molecular Size of Poly I • Poly C and Its Biological Activity 71-76

ARIMURA, H.

- Induction of Antiviral Activity *In Vivo* and *In Vitro* by Human Placenta Ribonucleic Acid Treated with Nitrous Acid 93-99

WATANABE, T., AND SHIOMI, T.

- Effect of Plant Lectins on γ Phage Receptor Sites of *Bacillus anthracis*.. 147-149

TAGUCHI, F., HARA, K., AND NAGAKI, D.

- Concanavalin A-Induced Agglutination of Cells Infected with Inactive Herpes Simplex Virus 150-152

Immunology

IKEDA, M., AND ONOUE, K.

- Interaction of Human Waldenström's IgM Proteins with Guinea Pig and Human Complement 101-108

KISHI, K., AND ISEKI, S.

- Immunochemical Studies on Bacterial Blood Group Substances. VIII. The Structure of Oligosaccharides from Blood Group H-Active Polysaccharide of *Escherichia coli* 2B-V 109-114

MURAOKA, S., TAKEYA, K., AND NOMOTO, K.

- In Vitro* Studies on the Mechanism of Acquired Resistance to Tuberculous Infection. I. The Relationship between Lymphocytes and Macrophages in Cellular Immunity to Tuberculous Infection 115-122

AKIYAMA, T., AND YAMAURA, N.

- Application of the Macrophage Migration Inhibition Test to Screen Patients with Early Cancer and Obtain Prognostic Determinations of Cancer Treatment..... 131-140

FUJIWARA, M., FUJIWARA, S., YOSHIZAKI, C., AND AWAYA, A.

- Strain Differences in the Immunogenicity of Aggregated Human IgG and the Adjuvant Action of Lipopolysaccharide on the Low-Responder Strain of Mice 141-146

Miscellaneous

YAMADA, M., AND MIYAZAKI, T.

| | |
|--|-------|
| Ultrastructure and Chemical Analysis of the Cell Wall of <i>Pythium debaryanum</i> | 83-91 |
|--|-------|

Volume 20, Number 3, June 1976

Bacteriology

TAKEUCHI, S., AND SUTO, T.

| | |
|--|---------|
| Behaviors of a Vigorous Protease-Producing Strain of <i>Staphylococcus aureus</i> in the Skin Tissue of Mice | 155-162 |
|--|---------|

MORISHITA, Y., AND MITSUOKA, T.

| | |
|---|---------|
| Microorganisms Responsible for Controlling the Populations of <i>Escherichia coli</i> and Enterococcus and the Consistency of Cecal Contents in the Chicken | 197-202 |
|---|---------|

YOSHIDA, K., ICHIMAN, Y., AND OHTOMO, T.

| | |
|--|---------|
| Mouse Virulent Strain of <i>Staphylococcus epidermidis</i> . Relation of Anti-phagocytic Activity to the Protection-Inducing Antigen | 209-217 |
|--|---------|

LIU, Y.-F., KINOSHITA, T., AND TANAKA, N.

| | |
|---|---------|
| Inhibition by Thiopeptin of Bacterial Protein Synthesis | 233-240 |
|---|---------|

YOKOKURA, T., AND MUTAI, M.

| | |
|--|---------|
| Penicillin Resistance and Its Elimination by Treatment with Acriflavine in <i>Lactobacillus fermenti</i> | 241-242 |
|--|---------|

MORISHITA, Y.

| | |
|---|---------|
| Effect of <i>N</i> -Methyl- <i>N'</i> -nitro- <i>N</i> -nitrosoguanidine on the Fecal Flora of Rats | 247-248 |
|---|---------|

Virology

HIRANO, N., FUJIWARA, K., AND MATUMOTO, M.

| | |
|--|---------|
| Mouse Hepatitis Virus (MHV-2). Plaque Assay and Propagation in Mouse Cell Line DBT Cells | 219-225 |
|--|---------|

SUGIYAMA, K., KAMADA, T., SHIMIZU, K., AND WATANABE, Y.

| | |
|--|---------|
| Preferential Phosphorylation of NP-Protein of Influenza A ₂ Virus by Virion-Associated Protein Kinase | 227-232 |
|--|---------|

YOSHIZAWA, S., HASHIZUME, S., MIYAMURA, K., AND MATUMOTO, M.

| | |
|---|---------|
| Variation in Thermostability of Measles Virus | 243-246 |
|---|---------|

MORI, R., HINO, Y., TANIGUCHI, T., NOMOTO, K., AND TAKEYA, K.

| | |
|---|---------|
| The Ability of Athymic Nude Mice to Survive Intracerebral Infection of Lymphocytic Choriomeningitis (LCM) Virus | 249-250 |
|---|---------|

SHINKAI, K., AND NISHIMURA, T.

| | |
|---|---------|
| Efficient Filtration of Interferon through Membrane Filters | 251-253 |
|---|---------|

Immunology

KATO, N., KATO, O., AND NAKASHIMA, I.

| | |
|--|---------|
| Effect of Capsular Polysaccharide of <i>Klebsiella pneumoniae</i> on Host Resistance to Bacterial Infections. I. Induction of Increased Susceptibility to Infections in Mice | 163-172 |
|--|---------|

| | |
|--|---------|
| KATO, N., NAKASHIMA, I., AND OHTA, M. Adjuvant Action of Capsular Polysaccharide of <i>Klebsiella pneumoniae</i> on Antibody Response. V. Further Biological Properties of the Active Substance | 173-181 |
| KUMAZAWA, Y., SHIBUSAWA, A., SUZUKI, T., AND MIZUNOE, K. Separation of a Water-Soluble Adjuvant (MAF3) from Delipidated Cells of <i>Mycobacterium tuberculosis</i> Strain Aoyama B by Hydrogenolysis and Gel Filtration | 183-190 |
| SUZUKI, M., HAYASHI, Y., ARAI, S., AND KUMAGAI, K. Studies on Delayed Hypersensitivity of Antigens Isolated from <i>Mycoplasma pneumoniae</i> Cells | 191-196 |
| ONO, M., AND KAWAKAMI, M. An Improved Procedure of Specific Polysome Precipitation with Antibody | 203-208 |

Volume 20, Number 4, August 1976

Bacteriology

| | |
|--|---------|
| KANAMORI, M. Biological Activities of Endotoxins from <i>Yersinia enterocolitica</i> | 273-280 |
| TANAHASHI, T., TOCHIKUBO, K., AND HACHISUKA, Y. Purification and Properties of Glucose-6-Phosphate Dehydrogenase from <i>Bacillus subtilis</i> Spores | 281-286 |
| TAKUMI, K., AND KAWATA, T. Quantitative Chemical Analyses and Antigenic Properties of Peptidoglycans from <i>Clostridium botulinum</i> and Other Clostridia | 287-292 |
| SOCHARD, M.R., AND COLWELL, R.R. Tolerance and Other Biological Properties of <i>Vibrio parahaemolyticus</i> Endotoxins | 309-319 |
| HAMADA, S., OOSHIMA, T., MASUDA, N., MIZUNO, J., AND SOBUE, S. Inhibition of Rat Dental Caries by Dextranase from a Strain of <i>Spicaria violacea</i> | 321-330 |
| TSUKAMURA, M. Properties of <i>Mycobacterium smegmatis</i> Freshly Isolated from Soil | 355-356 |
| TSUKAMURA, M. Conditions for Normal Distribution of Matching Coefficients Involved in a Cluster in Numerical Classification | 357-359 |

Virology

| | |
|---|---------|
| TAGUCHI, F., HIRANO, N., KIUCHI, Y., AND FUJIWARA, K. Difference in Response to Mouse Hepatitis Virus among Susceptible Mouse Strains | 293-302 |
| SEKINE, N., AND YOSHINO, K. Enhanced Growth and Plaquing of Rabies Virus in Static Chick Embryo Cell Culture | 331-338 |
| HASHIMOTO, M., AND YOSHINO, K. Alteration of the <i>In Vitro</i> Host Range of Rabies Virus after Serial Chick Embryo Cell Passage Using Alkaline Maintenance Medium | 339-346 |

MINAGAWA, T., AND KUWAJIMA, S.

Studies on the Persistent Infection of Measles Virus in HeLa (HeLa/MV)
Cells. VI. Electron Microscopic Observation of HeLa/MV Cells.. 347-350

SUGIYAMA, K., SHIMIZU, K., HOMMA, M., AND WATANABE, Y.

Preparation of Highly Labeled HVJ in Deembryonated Eggs 361-364

Immunology

TAKAOKI, M., KAWAGUCHI, S., KATSURA, Y., AND MURAMATSU, S.

Transition in the Character of Immunological Memory in Mice after
Immunization. I. Memory for IgM and IgG Antibody Responses.. 255-261

AZUMA, I., TANIYAMA, T., SUGIMURA, K., ALADIN, A.A., AND YAMAMURA, Y.

Mitogenic Activity of the Cell Walls of Mycobacteria, Nocardia,
Corynebacteria and Anaerobic Coryneforms 263-271

KITAMURA, Y., NOMOTO, K., TORISU, M., AND TAKEYA, K.

Effects of BCG (*Bacillus Calmette-Guérin*) Vaccines on Immune Re-
sponses in Mice. I. Possible Effect of BCG on Helper T Cells..... 303-308

MINATO, N., AND KATSURA, Y.

Enumeration of Antigen Reactive T Cells against Sheep Erythrocytes
by the Virus Plaque Assay 351-354

Volume 20, Number 5, October 1976

Bacteriology

DHILLON, T.S., AND DHILLON, E.K.S.

Temperate Coliphage HK022. Clear Plaque Mutants and Pre-
liminary Vegetative Map 385-396

YAMAGISHI, T., SERIKAWA, T., MORITA, R., NAKAMURA, S., AND NISHIDA, S.

Persistent High Numbers of *Clostridium perfringens* in the Intestines of
Japanese Aged Adults..... 397-403

SHIMOHASHI, H., KODAIRA, S., AND SUEGARA, N.

Grouping Antigens of Four *Lactobacillus* Species and Their Charac-
teristics 405-413

MIZUGUCHI, Y., SUGA, K., AND TOKUNAGA, T.

Multiple Mating Types of *Mycobacterium smegmatis* 435-443

TSUKAMURA, M.

A 'Photochromogenic' Variety of *Mycobacterium avium-intracellulare*
Complex 469-470

MATSUO, Y., AND UTSUNOMIYA, S.

Attempts at Cultivation of *Mycobacterium leprae* in Cell Cultures 471-473

Virology

ARIGA, H., SHIMOJO, H., AND YAMAGUCHI, K.

Viral DNA Synthesis *In Vitro* with the Inclusions Isolated from
Adenovirus 12-Infected Cells 445-454

IMAI, M., HAMADA, C., AND UETAKE, H.

Inhibition of Intracellular Multiplication of Adenovirus by Interaction
between Infected and Uninfected Cells 455-464

Immunology

MURAOKA, S., TAKEYA, K., AND NOMOTO, K.

- In Vitro* Studies on the Mechanism of Acquired Resistance to Tuberculous Infection. II. The Effects of the Culture Supernatants of Specifically Stimulated-Sensitized Lymphocytes on the Growth of Tubercle Bacilli within Macrophages..... 365-373

NOMOTO, K., HARADA, T., KOYANAGI, R., HOSOI, M., AND TAKEYA, K.

- Immune Response against Hamster Erythrocytes in the Low-Responder Mouse Strains. XI. Strain Difference in the Effects of Various Microbial Adjuvants 375-384

KATO, N., KATO, O., AND NAKASHIMA, I.

- Effect of Capsular Polysaccharide of *Klebsiella pneumoniae* on Host Resistance to Bacterial Infections. II. Effects on Peritoneal Leukocytes of Normal Mice and Mice Infected with Virulent *Salmonella enteritidis* 415-423

UCHIYAMA, T., AND YAMAURA, N.

- Ineffectiveness of Lipopolysaccharide for Preventing the Tolerance Induction in Bone Marrow-Derived Lymphoid Cells with Dinitrophenyl-Poly-L-(Glutamic Acid, Lysine) 425-433

AZUMA, I., SUGIMURA, K., ITOH, S., AND YAMAMURA, Y.

- Adjuvant Activity of Bacterial Glycolipids 465-468

Volume 20, Number 6, December 1976

Bacteriology

MIYAMOTO, S., KURODA, K., HANAOKA, M., AND OKADA, Y.

- Isolation of a Small Rod with Lytic Activity against *Vibrio parahaemolyticus* from Fresh Sea Water 517-527

SHIBATA, H., TAKAMATSU, H., AND TANI, I.

- Germination of Unactivated Spores of *Bacillus cereus* T. Effect of Preincubation with L-Alanine or Inosine on the Subsequent Germination 529-535

HACHISUKA, Y., AND KUNO, T.

- Filamentous Appendages of *Bacillus cereus* Spores 555-558

SHARMA, D.P., SHRINIWAS, AND BHUJWALA, R.A.

- Enterocin Typing of Group 'D' Streptococci 559-560

SAITO, H., AND TSUKAMURA, M.

- Mycobacterium intracellulare* from Public Bath Water 561-563

Virology

YAMAMOTO, T.K., MINAGAWA, T., AND IIDA, H.

- Purification of Host DNA Synthesis-Suppressing Factor (DSF) Produced by Infection with Measles Virus 499-505

KIHO, Y., AND SHIMOMURA, T.

- Binding of Tobacco Mosaic Virus to Membrane Material Isolated from Tobacco Leaves 537-541

Immunology

TAKAOKI, M.

Transition in the Character of Immunological Memory in Mice after

Immunization. II. Memory in T and B Cell Populations 475-483

MIYAZAKI, S., NOMOTO, K., KUROIWA, A., GOYA, N., AND TAKEYA, K.

Experimental Models for Prevention of Graft-versus-Host Reaction in

Bone Marrow Transfusion. I. Selective Suppression and Augmen-

tation of Splenomegaly and Cytotoxicity 493-498

MIYAMA, A., KATO, T., MINODA, I., UEDA, T., AND KASHIBA, S.

Activation of Terminal Components of Human Complement by a

Trypsin-Activated Complex of Human Factor B and Cobra Venom

Factor 507-516

SAITO, T., NAKANO, M., AND KUMAZAWA, Y.

Modulation of Mouse Anti-Trinitrophenyl Plaque-Forming Cell

Affinity by Adjuvants or Lectins 543-550

ICHIMURA, K.

Suppression and Stimulation of the *In Vitro* Immune Response by

Chlorpromazine..... 551-554

Miscellaneous

KUROSHIMA, T., KODAIRA, S., AND TSUCHIYA, T.

Serological Relationships among Some *Pichia* Species 485-492

Indexes and Contents

Author Index to Volume 20 565-566

Subject Index to Volume 20 567-571

Contents to Volume 20..... 573-581

ANNOUNCEMENT

The Japanese Journal of Microbiology from Volume 1, 1957 to Volume 9, 1965 was sponsored solely by the Japanese Society for Bacteriology (JSB) and from Volume 10, 1966 to Volume 13, 1969 was published jointly by the JSB and the Society of Japanese Virologists (SJV), in the form of quarterly issues. From Volume 14, 1970, the Journal increased publication from quarterly to bimonthly issues and from Volume 20, 1976 the Japanese Society for Immunology (JSI) has cooperated with the JSB and the SJV, with the Journal being published by IGAKU SHOIN Ltd., Tokyo. Beginning with Volume 21, 1977 the Journal will change its name to Microbiology and Immunology, with the indication "Continuation of the Japanese Journal of Microbiology". To shorten the time between acceptance and publication of manuscripts, the Journal will appear monthly instead of bimonthly. The Editorial and Publication Offices will be the CENTER FOR ACADEMIC PUBLICATIONS JAPAN, Tokyo.

In accordance with the changes mentioned above and with the newly adopted editing system, all correspondence concerning this Journal should be addressed, from September 1976 on, to Microbiology and Immunology, Center for Academic Publications Japan, 4-16, Yayoi 2-chome, Bunkyo-ku, Tokyo, 113 Japan.

When submitting a manuscript, authors should check the following table to determine to which item the manuscript properly belongs and then indicate the corresponding subject section and specified field on the cover page of the manuscript.

Subject section and specified field

| Subject section | Specified field | | | |
|-----------------|---|---|--|----------------------------------|
| Bacteriology | 1. Taxonomy. 5. Genetics 8. Epidemiology. 11. Toxin, bacterial components, and vaccines. 13. Clinical microbiology. 16. Miscellaneous. | 2. Nomenclature. 6. Chemotherapy and antibiotics. 9. Infection and immunity. 14. Environmental health. 16. Miscellaneous. | 3. Morphology. 7. Ecology. 10. Serology. 12. Mycology. 15. Applied microbiology. | 4. Physiology. |
| Virology | 1. Morphology. 5. Interferons and interference. 10. Tumor virus. 14. Chlamydia. | 2. Multiplication. 6. Chemotherapy. 8. Infection and immunity. 11. Phage. 15. Rickettsia. | 3. Viral genome. 7. Epidemiology and clinical virology. 9. Vaccines. 12. Plant virus. 16. Miscellaneous. | 4. Mutation 13. Insect virus. |
| Immunology | 1. Antigen analysis. 4. Immunochemistry. 7. Cellular immunity. 10. Tolerance. 13. Serology. 15. Miscellaneous. | 2. Antibody analysis. 5. Immunogenetics. 8. Cell interaction. 11. Adjuvants. 14. Clinical immunology and allergy. | 3. Complements. 6. Antibody response. 9. Lymphokines and chemical mediators. 12. Infection and immunity. | |